

What is claimed is:

1. In a CDMA-based cellular telecommunications network, a method for performing a dormant hand-off for a dormant Mobile Node (MN) from a source packet zone to a target packet zone, wherein the MN has an active A10 connection and an active PPP connection with a target PDSN of the target packet zone, the method comprising the steps of:

while the MN has an active A10 connection and an active PPP connection with a target PDSN of the target packet zone, issuing from the dormant MN an origination request for the target packet zone;

responsive to the origination request, sending an A-11 Radio network Packet data serving node (RP) registration request from a target Packet Control Function (PCF-T) to the target PDSN for the MN, the A-11/RP registration request comprising a mobility indicator indicative that the MN is performing a dormant hand-off; and

responsive to the receipt of the registration request, initiating a Mobile IP registration procedure.

2. The method claimed in claim 1, further comprising responsive to the step of initiating a Mobile IP registration procedure, the step of:

updating a Home Agent (HA) of the MN with a care-of-address information relating to the MN.

3. The method claimed in claim 1, wherein the step of initiating a Mobile IP registration procedure comprises the step of:

sending an agent advertisement message from the PDSN to the MN.

4. The method claimed in claim 1, wherein the step of issuing from the dormant MN an origination request for the target packet zone comprises the steps of:

sending from the MN the origination request comprising a target packet zone identification, a Data Ready to Sent parameter set to zero indicative of a dormant state of the MN, and an identification of the MN; and

receiving the origination request in a target Base Station Controller (BSC-T).

5. The method claimed in claim 4, further comprising before the step of sending the A-11 registration request, the step of:

responsive to a receipt of the origination request by the BSC-T, sending from the BSC-T an A9-setup-A8 message to the PCF-T, the A9-setup-A8 message comprising the Data Ready to Sent parameter set to zero.

6. The method claimed in claims 1, 4, and 5, wherein the MN requests an activation of a data packet session before issuing the origination request for the target packet zone.

7. The method claimed in claim 1, further comprising before the step of issuing, the steps of:

handing-off the MN from the target packet zone to the source packet zone, wherein the A10 connection and the PPP connection with a target PDSN are kept active for a predetermined period of time;

registering the MN with the source packet zone;

handing over from the source packet zone to the target packet zone the dormant MN before the expiry of the predetermined period of time.

8. The method claimed in claim 1, wherein the step of issuing is performed before an expiry of a predetermined period of time.

9. The method claimed in claim 8, wherein the predetermined period of time is one of a PPP connection expiration time and an RP connection expiration time.

10. The method claimed in claim 9, wherein the predetermined period of time is the shortest period of time from a PPP connection expiration time and an RP connection expiration time.

11. A CDMA-based cellular telecommunications system comprising:

a dormant Mobile Node (MN);

a target packet zone having i) a target Packet Data Service Node (PDSN) with which the MN has an active A10 connection and ii) an active PPP connection and a target
5 Packet Control Function (PCF); and

a source packet zone having a source PDSN with which the MN is currently registered with;

wherein the MN issues an origination request for the target packet zone during a hand-off procedure from the source packet zone to the target packet zone, and responsive
10 to the origination request, the target PCF sends an A-11 Radio network Packet data serving node (RP) registration request to the target PDSN for the MN, the A-11/RP registration request comprising a mobility indicator indicating that the MN is performing a dormant hand-off, and responsive to the receipt of the registration request the target PDSN initiates a Mobile IP registration procedure.

12. The system claimed in claim 11, wherein responsive to initiating a Mobile IP registration procedure, a Home Agent (HA) of the MN is updated with a care-of-address information relating to the MN.

13. The system claimed in claim 11, wherein during the Mobile IP registration procedure the PDSN sends an agent advertisement message to the MN.

14. The system claimed in claim 11, wherein the origination request for the target packet zone is sent by the MN to a target Base Station Controller (BSC-T) and comprises a target packet zone identification, a Data Ready to Sent parameter set to zero indicative of a dormant state of the MN, and an identification of the MN.

15. The system claimed in claim 14, wherein before sending the A-11 registration request and responsive to a receipt of the origination request by the BSC-T, the BSC-T sends an A9-setup-A8 message to the PCF-T, the A9-setup-A8 message comprising the Data Ready to Sent parameter set to zero.

16. The system claimed in claims 11, 14, and 15, wherein the MN requests an activation of a data packet session before issuing the origination request for the target packet zone.

17. The system claimed in claim 11, wherein:

the MN is handed-off from the target packet zone to the source packet zone, while the A10 connection and the PPP connection with a target PDSN are kept active for a predetermined period of time, the MN registers with the source packet zone, and the dormant MN is handed over from the source packet zone to the target packet zone before the expiry of the predetermined period of time.

18. The system claimed in claim 11, wherein the issuance of the origination request for the target packet zone is performed before an expiry of a predetermined period of time.

19. The system claimed in claim 18, wherein the predetermined period of time is one of a PPP connection expiration time and an RP connection expiration time.

20. The system claimed in claim 19, wherein the predetermined period of time is the shortest period of time from a PPP connection expiration time and an RP connection expiration time.

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